

UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
SAN ANTONIO DIVISION

WAVE NEUROSCIENCE, INC. a Delaware Corporation,

Plaintiff,

vs.

BRAIN FREQUENCY LLC, a Texas Limited Liability Company

Defendant.

Case No. 5:23-CV-00626-XR

Honorable: Xavier Rodriguez

JOINT CLAIM CONSTRUCTION CHART

Pursuant to the Scheduling Order entered on January 11, 2024 (Dkt. 25), Plaintiff Wave Neuroscience, Inc. (“Wave” or “Plaintiff”) and Defendant Brain Frequency LLC (“BF” or “Defendant”) submit this Joint Claim Construction Chart. The patents-at-issue in this matter are United States Patent Nos. 10,029,111 (“111 Patent”), 8,926,490 (“490 Patent”), 8,870,737 (“737 Patent”), and 8,465,408 (“408 Patent”) (collectively “Patents-in-Suit”). The terms and phrases the Parties seek to construe and their respective positions and proposed constructions are reflected in the below chart.

I. Brief Preliminary Statements

a. Plaintiff’s Preliminary Statement

Wave objects to the number of claim terms and/or phrases that Defendant seeks to construe in this lawsuit. While Defendant has substantially narrowed its list from the approximately forty claim terms/phrases it initially proposed for construction, nearly 15 claims is still too large and unnecessary for the Court to address. Wave requests the Court limit the number of terms for construction. *See High Point Sarl v. Spring Nextel Corp.*, 2010 WL 1292710 at *2 (D. Kan. Mar. 29, 2010) (collecting cases); *Ascion, LLC v. Tempur Sealy Int'l, Inc.*, 2017 WL 4572326 at *2 (E.D. Mich. Oct. 13, 2017); *Select Comfort Corp. v. Gentherm, Inc.*, 2014 WL 4976586 at *1 (D. Minn. Oct. 3, 2014) (collecting cases).

Additionally, the Parties have interpreted the requirements of the Court's Scheduling Order (Dkt. 25 at *2) differently. To the extent that the Court does require an Appendix with all intrinsic evidence excerpted, Plaintiff has attached its excerpted evidence as Appendix A. Per the Scheduling Order, the patents-in-suit are attached as Appendices B-E and excerpts of the file histories for each of the patents-in-suit are attached as Appendices F-I.

Wave further reserves the right to rely on extrinsic evidence, as well as any evidence identified by Defendant, in support of its proposed constructions and positions, including expert testimony and constructions entered in related cases.

b. Defendant's Preliminary Statement

Defendant has diligently analyzed the four asserted patents to identify the terms requiring construction. Given Plaintiff's 23 asserted claims from three patent families (only two of the asserted patents are related), Plaintiff believes its 15 proposed terms are reasonable. To the extent Defendant seeks to reduce the number of terms, limiting the number of asserted claims would be helpful. Defendant further proposed to brief and argue the terms by priority, with the potentially case dispositive terms first.

Regarding the identification of intrinsic evidence, Defendant has provided relevant excerpts of the file history, and relies on citations to the official patents. To the extent the Court would find excerpts from the patents useful in a word document, Defendant would be happy to provide it.

Defendant further reserves the right to rely on extrinsic evidence, as well as any evidence identified by Plaintiff, in support of its proposed constructions and positions, including expert testimony and constructions entered in related cases.

II. Agreed Claim Constructions¹

No.	Claim Term/Phrase and Asserted Claims Containing Term	Agreed Construction
1	Non-EEG biological metric '111 Patent, Claims 1, 3	A biological metric that is not an EEG metric or measurement
2	Move a/an/the ² '408 Patent, Claim 1 '490 Patent, Claim 1	Shifts or alters a/an/the
3	Moving ³ '408 Patent, Claim 2	Shifting or altering

¹ Even though the parties have reached agreement as to the construction of the claim terms listed in the Agreed Claim Constructions section of the chart, the parties believe that these claims terms and their agreed upon construction should be included in the Court's Claim Construction Order.

² Defendant asserts that "move a/an/the" is not enabled. If Defendant is unsuccessful in its argument, the Parties agree as to this construction.

³ Defendant asserts that "moving" is not enabled. If Defendant is unsuccessful in its argument, the Parties agree as to this construction.

No.	Claim Term/Phrase and Asserted Claims Containing Term	Agreed Construction
	'737 Patent, Claims 1, 2	
4	To a target '408 Patent, Claim 12	To be substantially the same as a target
5	Toward a '408 Patent, Claims 1-2 '737 Patent, Claims 1-2	Closer to
6	Magnetic field ⁴ '408 Patent, Claims 1-2, 4, 9, 12 '737 Patent, Claims 1-2, 8 '490 Patent, Claim 1	A region around a magnetic material or a moving electric charge within which the force of magnetism acts
7	Second magnetic field '490 Patent, Claim 1	A region around a second magnetic material or a second moving electric charge within which the force of magnetism acts
8	[Within a/the] specified EEG band '408 Patent, Claims 1-2, 12, 20 '737 Patent, Claims 1-2, 4 '490 Patent, Claim 1	The band within which an intrinsic frequency is chosen and treatment is performed selected from the group consisting of one of the alpha band, beta band, delta band, gamma band, or theta band

⁴ Defendant asserts that the phrases “control the magnetic field” and “one synchronized magnetic field” are invalid. If Defendant is unsuccessful in its arguments, the Parties agree as to this construction.

No.	Claim Term/Phrase and Asserted Claims Containing Term	Agreed Construction
9	EEG phase '490 Patent, Claim 1 '408 Patent, Claims 1, 12	A measure that conveys the difference, if any, between the timing of peaks and/or troughs in two EEG signals

III. Terms/Phrases All Parties Request the Court Construe

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence ⁵	Defendant's Proposed Construction and Supporting Intrinsic Evidence ⁶
10	[A method of] improving a physiological condition or a neuropsychiatric condition ⁷ '111 Patent, Claim 1	to make or become better [the medical conditions in the claim] '111 Patent: 1:24-28; 1:41-44; 1:59-62; 2:1-8; 3:22-24; 3:52-56; 3:59-65; 4:1-11; 4:13-17; 4:18-26; 4:27-35; 7:1-12; 7:21-26; 7:35-43. '111 Prosecution History at *67-68, *90.	Indefinite and unpatentable subject matter. '111 Patent, 1:35-58, 1:59-2:9, 2:57-3:3, 3:4-40, 3: 41-58, 4:1-12, & 6:54-7:51.

⁵ While the specifications of the '408 Patent, '737 Patent, and '490 Patent have some commonality, the specifications of the three patents are not identical and some of the patents have different and/or additional disclosure. Accordingly, Plaintiff objects to Defendant's reliance on "related" but currently unidentified evidence as Plaintiff does not have an adequate understanding of the intrinsic evidence that Defendant plans to rely on.

⁶ Given the commonality in the specifications among the '408 Patent, '737 Patent, and '490 Patent, any intrinsic reference cited to one specific patent includes by reference related citations among the remaining patents. Additionally, Defendant intrinsic citations includes each and every claim of the Patents-in-Suit.

⁷ Plaintiff proposes to construe "improving a physiological condition or a neuropsychiatric condition". Defendant proposes that the phrase "A method of improving a physiological condition or a neuropsychiatric condition" should be addressed by the Court.

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence ⁵	Defendant's Proposed Construction and Supporting Intrinsic Evidence ⁶
11	Harmonic or sub-harmonic '111 Patent, Claims 1, 3	<p>A whole number multiple or a whole number divisional of a frequency of a waveform</p> <p>'111 Patent: 1:47-53; 2:12-20; 2:38-46; 2:48-51; 2:57-3:3; 3:4-3:17; 3:24-29; 3:36-40; 3:56-58; 3:65-67; 4:37-59; 4:61-67; 5:13-18; 5:31-37; 5:51-57; 6:9-15; 6:29-35.</p> <p>'111 Prosecution History at *68.</p>	<p>For harmonic/sub-harmonic only: Indefinite & Invalid: Not enabled /lacking written description.</p> <p>'111 Patent, 1:35-58, 2:9-21, 2:38-3:3, 3:4-67, 4:37-60, & 6:56-7:43.</p>
12	Intrinsic frequency '490 Patent, Claim 1 '408 Patent, Claims 1-2, 12, 20 '111 Patent, Claims 3, 7 '737 Patent, Claims 1-2, 4	<p>frequency selected to which treatment is to be applied</p> <p>'408 Patent: 1:40-45; 1:46-67; 2:55-61; 3:24-32; 4:3-10; 5:4-10; 5:35-46; 7:12-16; 10:63-67; 11:1-3; 11:4-6; 11:10-22; 11:35-40; 11:61-12:3; 12:4-11; 12:33-48; 12:49-58; 14:21-25; 14:33-42; 15:5-15; 15:16-23; 15:49-59; 17:32-38; 17:39-55; 18:40-46; 19:27-44; 20:24-30; 21:16-33; 22:23-29; 23:15-21; 24:12-33; 25:12-19; 27:13-20; 29:32-33; 29:52-62; 29:63-30:3; 30:11-22; 37:18-22; 39:16-32; 40:8-45; 40:64-41:15; 42:21-33; 42:50-43:3; 43:4-8; 43:9-15; 43:33-37; 43:43-47; 44:36-51; 45:5-25; 45:25-45; 45:45-55; 47:14-21; 47:22-46; 47:54-64; 48:30-</p>	<p>the frequency (f0) at which peak signal power in the specified band (Emax) is located</p> <p>For '111 Patent: Indefinite & Invalid: Not enabled/ lacking written description</p> <p>or</p> <p>In the alternative: “the frequency (f0) at which peak signal power in the specified band (Emax) is located”</p> <p>'490 Patent, 1:46-2:25, 2:26-64, 3:20-28, 4:1-13, 4:43-5:11, 6:7-25, 6:32-48,</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence ⁵	Defendant's Proposed Construction and Supporting Intrinsic Evidence ⁶
		<p>32; 51:44-49; 52:29-36; 52:48-59; 52:65-53:12; 60:42-49; 61:47-62:7; 62:43-58; 63:54-57.</p> <p>'490 Patent: 1:40-45; 1:47-2:25; 3:20-28; 6:8-25; 7:4-10; 8:21-52; 8:53-60; 14:49-62; 15:38-48; 15:49-56; 16:11-18; 16:32-36; 17:3-8; 17:58-63; 18:65-19:9; 19:55-65; 19:66-20:6; 20:63-21:2; 22:19-29; 23:59-64; 23:65-24:3; 24:59-25:39; 26:4-17; 26:18-57; 28:17-25; 29:39-30:8; 31:4-22; 32:50-33:10; 33:11-18; 33:29-36; 33:64-34:5; 35:49-60; 36:25-31; 36:32-38; 28:30-41; 43:45-56; 46:57-62; 54:39-43; 57:3-15; 57:28-65; 58:16-35; 60:4-28; 60:29-34; 60:35-42; 61:56-62:11; 62:32-52; 64:42-49; 64:50-65:8; 65:14-26; 65:58-61; 69:5-10; 69:51-64; 70:30-34; 78:9-12; 79:25-32; 79:41-45; 83:33-36.</p> <p>'737 Patent: 1:39-44; 1:45-2:23; 3:17-25; 6:4-22; 7:1-7; 8:15-46; 8:47-54; 14:45-55; 15:33-43; 15:44-51; 16:13-21; 16:27-30; 17:53-58; 18:35-47; 19:8-13; 20:30-41; 22:6-11; 22:13-17; 23:1-26:45; 26:65-27:6; 28:21-57; 30:31-37; 31:49-55; 31:66-32:5; 32:33-41; 34:18-24; 34:61-67; 35:1-8; 38:35-46; 41:48-53; 51:26-42; 51:6-67; 52:18-55; 53:6-26; 54:62-</p>	<p>8:23-60, 9:1-24, 12:18-46, 15:38-59, 16:4-26, 17:3-8, 18:21-46, 19:55-20:6, 21:41-60, 22:19-29, 23:29-48, 23:59-24:3, 24:53-25:39, 25:40-26:64, 26:65-27:64, 29:39-30:16, 31:4-22, 36:25-51, 39:20-28, 41:18-41, 43:14-44:67, 46:57-47:4, 47:10-29, 57:28-65, 58:16-59:6, 59:50-56, 60:6-42, 62:8-11, 64:42-49, 63:8-15, 64:50-65:8, 65:9-26, 65:27-66:5, 69:5-22, 69:44-70:20, 79:10-44, 81:6-26, & 83:25-48; Figures 5-6, 12, & 36a-36b and related descriptions.</p> <p>'111 Patent, 2:38-3:3, 3:4-4:36, 4:37-60, 5:1-6:50, 6:55-7:12 & 7:32:-43.</p> <p>'408 Patent, 3:5-47, 19:20-67, 21:16-60, 24:12-62 & 25:44-27:12.</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence ⁵	Defendant's Proposed Construction and Supporting Intrinsic Evidence ⁶
		<p>55:19; 55:20-25; 55:26-33; 56:47-57:2; 57:23-43; 59:36-43; 59:44-67; 60:51-53; 64:45-58; 65:23-26; 72:66-73:2; 74:14-21; 74:30-34; 78:18-21.</p> <p>'111 Patent: 2:39-41; 3:52-54; 3:59-61; 4:1-3; 4:13-14; 4:18-21; 4:37-59; 4:61-63; 5:12-14; 5:31-33; 5:51-53; 6:9-11; 6:29-31.</p> <p>'408 Prosecution History at *737-42, *748, *800, *819, *1746-47.</p> <p>'773 Prosecution History at *1278, *1308-09, *1507-08, *1551.</p> <p>'490 Prosecution History at *1530, *1753-54, *1781, *1804.</p> <p>'111 Prosecution History at *68.</p>	
13	<p>Pre-selected intrinsic frequency/Q-Factor/coherence value</p> <p>'408 Patent, Claims 2, 12</p> <p>'737 Patent, Claims 1-2</p>	<p>A targeted intrinsic frequency/Q-Factor/coherence value chosen before treatment</p> <p>'737 Patent: 1:39-44; 6:23-29; 6:46-51; 6:52-67; 8:15-46; 8:47-54; 15:33-43; 18:1-12; 18:13-19; 23:1-6; 29:53-58; 30:8-13; 30:14-30; 31:22-48; 31:49-65; 31:66-32:15; 42:39-44; 52:18-30; 52:56-</p>	<p>Indefinite, & Invalid: Not enabled /lacking written description/fails to establish best mode.</p> <p>Defendant incorporates by reference herein, all intrinsic citations listed for "Pre-selected," <i>infra</i>.</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence ⁵	Defendant's Proposed Construction and Supporting Intrinsic Evidence ⁶
		<p>63; 52:64-53:5; 54:62-55:25; 55:26-33; 74:14-21.</p> <p>'408 Prosecution History at *742, *800, *1746.</p> <p>'737 Prosecution History at *1278, *1308, *1508.</p>	

IV. Plaintiff's Proposed Terms/Phrases

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
14	<p>In-phase/in phase</p> <p>'408 Patent, Claims 1, 12</p> <p>'490 Patent, Claim 1</p>	<p>waveforms whose peaks and/or troughs occur at substantially the same time</p> <p>'408 Patent: 38:4-16; 55:42-49.</p> <p>'490 Patent: 55:24-36; 73:4-11.</p>	<p>waveforms whose peaks and troughs occur at the same time</p> <p>'490 Patent, 3:49-52, 4:9-12, 5:12-19, 7:30-8:18, 12:19-46, 13:30-14:45, 16:37-17:15, 17:30-63, 18:30-37, 19:12-46, 20:36-48, 20:63-21:2, 21:34-36, 23:15-28, 28:45-49, 29:5-10, 30:9-16, 32:8-13, 34:16-34, 34:49-55, 37:62-38:2, 38:44-56, 39:5-11, 39:48-56, 40:32-45, 41:18-58, 42:18-38, 47:42-47, 48:62-49:12, 52:64-55:36, 26:31-52, 51:35-36, 57:23-27, 59:12-60:3, 62:32-</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
			67, 66:40-62 & 73:4-11; Figures 3 & 28-30.
15	Move the [Q-Factor of the] first intrinsic frequency in a pre-selected direction, up or down, within the specified EEG band using the magnetic field '490 Patent, Claim 1	See constructions for claim term numbers 2 + 6 + 8 + 12 + 15	Indefinite & Invalid: Not enabled /lacking written description/failure of best mode. Defendant incorporates by reference herein, all intrinsic citations listed for "Move/Moving," <i>infra</i> .
16	Out of phase '408 Patent, Claims 1, 12 '490 Patent, Claim 1	waveforms whose peaks and troughs do not occur at substantially the same time '408 Patent: 4:34-40; 13:26-31; 14:11-17; 16:48-50; 16:51-55; 36:5-23; 37:25-44; 37:53-62; 37:63-38:3; 41:35-51; 42:41-47. '490 Patent: 3:49-52; 8:11-18; 17:9-15; 17:49-55; 23:20-23; 23:24-28; 55:6-15; 55:16-23; 28:45-48; 53:26-45; 54:44-64; 59:64-60:3. '408 Prosecution History at *742.	waveforms whose peaks or troughs do not occur at the same time '490 Patent, 3:49-52, 4:9-12, 5:12-19, 7:30-8:18, 12:19-46, 13:30-14:45, 16:37-17:15, 17:30-63, 18:30-37, 19:12-46, 20:36-48, 20:63-21:2, 21:34-36, 23:15-28, 28:45-49, 29:5-10, 30:9-16, 32:8-13, 34:16-34, 34:49-55, 37:62-38:2, 38:44-56, 39:5-11, 39:48-56, 40:32-45, 41:18-58, 42:18-38, 47:42-47, 48:62-49:12, 51:35-36, 52:64-55:36, 26:31-52, 57:23-27, 59:12-60:3, 62:32-67, 66:40-62 & 73:4-11; Figures 3 & 28-30.
17	Pre-selected	Targeted	Indefinite/Invalid: Not enabled /lacking written description/failure of best mode.

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
	<p>'408 Patent, Claims 2, 12</p> <p>'490 Patent, Claim 1</p> <p>'737 Patent, Claims 1-2</p>	<p>'490 Patent: 1:41-46; 6:26-31; 6:32-47; 6:48-53; 6:54-7:3; 7:30-35; 8:21-52; 9:18-24; 15:38-48; 17:3-8; 17:59-63; 18:5-12; 18:13-20; 18:21-29; 18:30-37; 19:55-65; 19:66-20:6; 24:53-58; 31:23-28; 31:45-50; 31:51-67; 32:8-13; 32:50-33:10; 33:11-28; 33:29-46; 37:37-44; 37:45-52; 37:53-61; 37:62-38:2; 41:18-41; 47:49-54; 54:40-43; 54:65-55:5; 57:28-40; 57:66-58:6; 59:12-17; 59:18-28; 59:37-42; 59:51-56; 60:4-34; 60:35-42; 79:25-32; 81:9-20.</p> <p>'737 Patent: 1:39-44; 6:23-29; 6:30-45; 6:46-51; 6:52-67; 7:26-31; 8:47-54; 9:13-19; 15:33-43; 16:65-17:3; 17:53-58; 18:1-2; 18:13-19; 23:1-6; 29:53-58; 30:8-13; 30:14-30; 30:38-43; 31:22-48; 31:49-65; 31:66-32:15; 36:8-31; 39:20-28; 39:29-37; 39:38-47; 39:48-56; 42:39-44; 49:29-32; 49:55-62; 52:18-30; 52:56-63; 54:3-8; 54:9-19; 54:28-33; 54:42-47; 54:62-55:25; 55:26-33; 74:14-21; 75:65-76:9.</p> <p>'408 Prosecution History at *739, *800.</p> <p>'737 Prosecution History at *1278, *1308, *1508.</p>	<p>'737 Patent, 1:39-44, 6:23-67, 7:8-16, 7:26-55, 8:15-54, 9:12-19, 15:33-43, 16:65-17:3, 17:53-58, 18:1-19, 23:1-6, 30:38-52, 31:49-65, 32:1-15, 36:7-32, 38:6-13, 42:39-44, 49:29-33, 49:55-61, 52:18-53:6, 54:3-47, 54:62-55:33, 74:7-21 & 75:62-76:16.</p> <p>'490 Patent, 18:5-19 & 31:23-46.</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		'490 Prosecution History at *1530, *1754, *1803-04.	

V. Defendant's Proposed Terms/Phrases

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
18	Q-Factor '490 Patent, Claim 1 '408 Patent, Claims 1-2, 12, 20 '737 Patent, Claims 1-2, 4	Plain and ordinary meaning, namely where the Q-factor is the ratio of the intrinsic frequency relative to the frequency bandwidth at half peak energy (i.e. where the energy at any point on the curve is greater than one-half of the peak energy). '408 Patent: 2:1-6; 15:49-59; 17:62-18:17; 19:27-67; 21:16-60; 24:12-61; 26:24-48; 30:23-29; 40:46-51; 47:47-64; 52:49-59. '490 Patent: 22:19-29; 35:61-36:4; 65:9-26; 70:10-21. '737 Patent 20:30-41; 34:30-40; 60:1-18; 65:4-13. '490 Prosecution History at *1530,	Ratio of $f_0 / \Delta f$, where f_0 is the intrinsic frequency and Δf is the frequency bandwidth for which the energy is above one-half the peak energy in the specified band '490 Patent, 2:26-64, 4:1-13, 5:12-19, 6:26-48, 7:4-29, 8:23-60, 9:1-24, 11:4-8, 12:18-46, 13:30-14:45, 15:8-59, 16:4-26, 17:64-18:47, 19:12-21:2, 21:41-60, 22:19-29, 23:29-48, 23:59-24:3, 24:17-20, 24:53-25:39, 25:40-26:64, 26:65-27:64, 28:61-67, 29:39-30:16, 31:23-44, 32:1-33:10, 33:11-34:55, 35:24-36:61, 36:61-37:32, 37:45-38:12, 38:41-56, 39:5-11, 39:20-37, 39:47-67, 40:30-67, 41:9-17, 41:18-41, 43:14-44:67, 46:57-47:4, 47:10-29, 47:37-54, 56:31-53, 57:3-58:6, 58:36-55, 59:7-11, 59:50-56, 60:6-42, 61:56-62:11, 62:32-63:15, 63:8-15, 64:42-49, 64:50-65:8, 65:9-52,

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		<p>*1625, *1804.</p> <p>'737 Prosecution History at *1102.</p> <p>'408 Prosecution History at *737, *760, *1746-47.</p>	<p>68:34-49, 69:65-70:20, 79:10-44, 80:17-67, 81:6-26, 82:17-83:21 & 83:25-48; Figs. 5-6, 12, and 36a, 36b, 40.</p> <p>'408 Patent, 3:5-23, 3:23-47, 19:20-67, 21:16-60, 24:12-62, 25:44-27:12 & 52:37-48.</p> <p>'737 Patent, 6:29-44 & 34:30-47.</p> <p>Defendant also incorporates by reference herein, all intrinsic citations listed for "intrinsic frequency," <i>supra</i>.</p>
19	<p>Coherence value</p> <p>'490 Patent, Claim 1</p> <p>'408 Patent Claims 1, 12, 20</p>	<p>Not indefinite or invalid.</p> <p>Plain and ordinary meaning namely a measure of similarity between two or more signals over time.</p> <p>'408 Patent: 2:28-54; 7:23-26; 12:9-11; 18:18-39; 20:1-23; 21:61-22:22; 22:56-23:14; 24:62-25:11; 26:49-27:12; 30:16-19; 40:55-63; 41:35-51; 52:37-38.</p> <p>'490 Patent: 4:5-8; 5:12-19; 6:48-53; 6:54-7:3; 11:9-13 15:49-56; 17:64-18:12; 18:21-29; 19:12-24; 20:36-48; 29:1-4; 30:9-16; 31:45-50; 31:51-67; 34:16-34; 37:53-61; 38:44-56; 39:38-47; 40:33-45; 47:37-48; 58:7-15; 58:56-59:6.</p>	<p>Indefinite and Invalid: Not enabled / lacking written Description or in the alternative: "The difference between the frequency and phase of two waves."</p> <p>'408 Patent: 2:28-54, 8:31-59, 9:37-10:59, 18:18-39, 20:1-24, 21:61-22:22, 23:15-29, 24:62-25:19, 26:49-27:20, 39:11-32, 41:35-51, & 52:37-48.</p> <p>Patent Pros. History: '408 Patent, patentee argument dated March 12, 2012; patentee argument dated Sep. 10, 2012; patentee argument dated Jan 18, 2013</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		<p>'408 Prosecution History at *658, *738, *1625-26.</p> <p>'490 Prosecution History at *1799.</p>	
20	<p>move an/the [intrinsic frequency...Q-Factor...]</p> <p>'408 Patent, Claims 1, 12</p> <p>'490 Patent, Claim 1</p> <p>Moving, using the magnetic field,[an intrinsic frequency, ...QFactor...]</p> <p>'737 Patent, Claims 1-2</p>	<p>Not indefinite or invalid.</p> <p>'408 Patent: 1:46-67; 17:39-55; 19:27-67; 21:16-60; 24:12-61; 40:64-41:15; 41:16-34.</p> <p>'737 Patent: 6:4-22; 23:7-24; 53:6-26; 53:27-46.</p> <p>'490 Patent 6:8-25; 31:4-22; 58:16-35; 58:36-55.</p> <p>'408 Prosecution History at *736-38, *741-42, *1740, *1742.</p> <p>'737 Prosecution History at *1307-09, *1548, *1551.</p> <p>'490 Prosecution History at *1525-26, *1529-30.</p>	<p>Indefinite & Invalid: Not enabled /lacking written description/failure of best mode.</p> <p>'408 Patent, 6:3-23, 7:1-8:4, 12:59-13:36, 13:58-67, 30:37-65, 31:19-54, 32:13-40, 32:64-33:27, 35:43-57, 36:46-37:22 & 38:4-16; Example 13, Figs. 10, 11, 26, 28.</p> <p>Patent Pros. History: '490 Patent, patentee argument dated June 9, 2014; patentee argument dated July 7, 2014</p> <p>Patent Pros. History: '408 Patent, patentee argument dated March 12, 2012; patentee argument dated Sep. 10, 2012; patentee argument dated Jan 18, 2013</p> <p>Patent Pros. History: '737 Patent, patentee argument dated Feb. 13, 2014</p>
21	<p>Control the magnetic field</p> <p>'490 Patent, Claim 1</p>	<p>Not indefinite or invalid.</p> <p>'490 Patent: 5:24-25; 11:59-65; 19:34-36; 20:57-59; 21:61-67; 30:21-22; 34:43-</p>	<p>Indefinite & Invalid: Not enabled /lacking written description/failure of best mode.</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		45; 38:66-39:4; 41:64-42:4; 42:10-17; 42:22-30; 42:31-38; 42:46-48; 45:65-46:6; 46:7-23; 52:42-47; 52:53-56; 55:62-56:4; 65:9-16; 65:53-58; 66:23-27; 67:6-14; 75:65-77:67; 83:49:84:8. '490 Prosecution History at *1861.	'490 Patent, 5:24-25, 11:59-12:9, 19:34-39, 20:57-59, 30:21-22, 34:43-45, 38:66-39:4, 40:55-60, 41:59-48, 45:65-46:29, 52:42-56, 55:57-56:20, 65:9-26 & 65:53-66:5; Examples 1, 4, 11, 14; Figs. 1, 7, 24, 25, 27, 39 and related descriptions.
22	a frequency that decreases blood flow in a lower region of the brain of the subject '737 Patent, Claims 1-2	Not indefinite or invalid. '737 Patent: 18:16-18; 30:62-31:21; 31:49-65; 33:32-45; 77:28-48; 78:10-33. '737 Prosecution History: *1308.	Indefinite and invalid: not enabled/fails to establish best mode '737 Patent, 1:13-19, 30:62-31:21, 31:49-65; Example 14.
23	a Q-factor that increases blood flow in the cortex of the subject '737 Patent, Claim 1	Not indefinite or invalid. '737 Patent: 31:22-48; 33:32-45; 35:21-23; 35:24-32; 35:56-63; 35:64-36:3; 77:62-78:6. '737 Prosecution History at *1308.	Indefinite and invalid: not enabled/fails to establish best mode '737 Patent, 1:13-19, 30:62-31:21, 31:49-65; Example 14.
24	adjusting [a setting].../[frequency] /[output] '408 Patent, Claims 1, 4 '737 Patent, Claims 1, 2	Not indefinite or invalid. '408 Patent: 1:49-61; 5:47-53; 5:54-6:2; 6:3-5; 6:13-15; 7:36-38; 8:5-11; 10:63-11:60; 15:24-33; 20:57-21:15; 30:66-31:2; 31:12-18; 31:19-54; 31:59-61;	Indefinite & Invalid: Not enabled /lacking written description/failure of best mode.

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		<p>32:64-66; 33:36-42; 33:43-50; 35:4-9; 35:49-58; 47:14-18; 47:6-48:23; 48:24-29; 48:43-67; 48:66-49:8; 49:15-23; 49:46-50:3; 50:23-27; 51:7-16; 51:44-49; 52:23-36; 52:37-59; 52:65-53:6; 53:27-42; 53:51-65; 55:18-24; 55:38-41; 55:42-49; 56:60-57:2; 57:13-16; 57:33-36; 57:53-57; 58:11-14; 59:25-31; 59:61-60:2; 60:3-36; 60:46-49; 60:53-61:3 61:47-62:12; 63:5-27; 64:24-42.</p> <p>'737 Patent: 1:39-44; 2:10-23; 2:24-27; 2:63-3:1; 9:27-42; 9:52-54; 11:53-59; 14:42-15:20; 18:1-11; 18:29-32; 19:1-3 20:4-14; 23:1-6; 23:58-24:3; 26:46-64; 29:3-4; 32:23-28; 33:11-13; 37:30-39; 43:15-22; 43:28-34; 43:35-44:2; 44:7-9; 45:11-13; 45:48-54; 45:55-62; 47:15-21; 47:60-48:2; 53:65-54:2; 59:25-60:44; 60:45-50; 61:15-20; 61:21-30; 61:37-46; 62:1-25; 62:45-49; 63:29-38; 63:65-64:3; 64:45-58; 64:59-65:3; 65:19-27; 65:36-62; 66:4-18; 67:39-45; 67:59-62; 67:63-68:3; 69:14-23; 69:34-37; 69:54-57; 70:7-11; 70:32-35; 71:46-52; 72:15-23; 72:24-56; 72:66-73:2; 73:6-22; 74:7-21; 74:22-34; 74:45-64; 75:5-24; 75:62-76:15; 77:11-27.</p> <p>'408 Prosecution History at *1740.</p>	<p>'737 Patent: 1:39-44, 2:24-62, 2:63-3:16, 6:23-7:7, 7:26-31, 7:66-8:5, 9:20-26, 14:45-15:32, 18:1-26, 23:1-6, 26:46-64, 29:53-30:52, 31:22-32:22, 35:56-63, 36:42-48, 42:39-44, 52:18-53:5, 53:65-54:54 & 59:25-60:44; Examples 1-4, 11, 14, and 15; and Fig. 7 and related description.</p> <p>'408 Patent: 1:40-45, 2:1-7, 2:28-62, 3:24-54, 4:27-33, 5:47-53, 10:63-11:60, 17:25-27:47, 30:23-29, 40:8-63, 41:52-42:40 & 47:6-48:24; Examples 1-4, 11, 14, and 15; Fig. 7 and related description.</p> <p>Patent Pros. History: '490 Patent, patentee argument dated 03-19-2014</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		'737 Prosecution History at *1308.	
25	One synchronized magnetic field '408 Patent, Claims 1, 12	Not indefinite or invalid. '408 Patent: 2:28-54; 18:18-39; 20:1-23; 21:61-22:22; 24:62-25:11; 26:49-27:20; 41:35-51; 49:27-35. '408 Prosecution History at *739, *742.	Indefinite & Invalid: Not enabled/lacking written description. '408 Patent, 2:28-54, 18:17-39, 20:1-23, 24:62-25:11, & 41:35-51. Patent Pros. History: '490 Patent, patentee argument dated June 9, 2014; patentee argument dated July 7, 2014 Patent Pros. History: '408 Patent, patentee argument dated March 12, 2012; patentee argument dated Sep. 10, 2012; patentee argument dated Jan 18, 2013 Patent Pros. History: '737 Patent, patentee argument dated Feb. 13, 2014
26	Close to the head '490 Patent, Claim 1 '408 Patent, Claims 1-2 '737 Patent, Claims 1-2	Plain and ordinary meaning, namely wherein the head is not outside the magnetic field. '408 Patent: 1:40-45; 2:7-27; 2:28-54; 2:55-61; 2:62-3:4; 3:5-14; 3:15-23; 3:24-32; 3:33-40; 3:48-54; 4:11-26; 4:27-33; 7:12-16; 7:17-21; 7:22-26; 10:63-67; 11:28-32; 14:1-10; 17:25-38; 17:39-55; 17:62-67; 18:1-17; 18:18-39; 18:40-46;	"Near the head, but not on the head." '408 Patent, 20:39-48, 4:12-26, 22:38-47, 23:30-39, 25:28-37, 27:29-39, 37:30-44, 42:21-34, & 18:54-63; Examples 14 and 15.

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		<p>18:47-53; 18:54-63; 18:64-19:3; 19:27-67; 20:1-23; 20:31-38; 20:39-48; 20:50-55; 21:15-32; 21:35-60; 21:61-22:22; 22:23-29; 22:30-37; 22:38-47; 22:48-54; 23:1-14; 23:15-21; 23:22-29; 24:12-29; 24:33-61; 24:62-25:11; 25:12-19; 25:20-27; 25:28-36; 26:24-48; 26:49-27:12; 27:13-20; 27:21-27; 27:29-39; 27:40-46; 37:53-62; 40:41-54; 40:55-63; 40:64-41:15; 41:16-34; 41:35-51; 41:52-56; 41:57-61; 42:34-40; 63:5-27; 63:46-60; 64:24-42.</p> <p>'490 Patent: 1:27-2:25; 2:26-64; 6:7-25; 6:26-31; 6:33-42; 6:48-7:3; 7:3-36; 7:61-8:3; 8:4-10; 10:66-11:3; 11:4-12; 14:49-53; 15:9-13; 17:40-48; 17:64-18:12; 18:30-37; 19:12-24; 19:55-65; 19:66-20:6; 20:36-48; 24:53-58; 24:59-25:46; 26:17-57; 31:4-22; 31:23-28; 31:29-44; 31:45-50; 31:51-67; 32:1-7; 32:8-13; 32:14-22; 32:50-33:10; 33:11-28; 33:29-46; 34:16-34; 37:37-44; 37:45-52; 37:53-61; 37:62-38:2; 38:3-12; 38:44-56; 39:29-37; 39:38-47; 39:48-56; 39:57-67; 40:32-45; 40:33-45; 41:9-17; 41:42-51; 41:52-58; 43:14-22; 43:23-31; 47:49-54; 57:27-65; 57:66-59:6; 59:7-17; 59:37-63; 63:17-24; 66:19-26; 79:18-32; 83:25-33.</p>	

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		<p>'737 Patent: 1:38-44; 1:45-2:23; 2:24-62; 6:4-22; 6:29-44; 6:51-67; 7:1-7; 7:8-16; 7:17-25; 7:26-31; 7:56-65; 10:60-64; 10:65-11:2; 11:3-7; 7:66-8:5; 14:45-49; 15:5-9; 17:35-43; 17:59-67; 18:13-19; 18:48-59; 23:1-6; 23:7-24:3; 24:4-21; 24:65-25:37; 29:53-58; 29:59-30:7; 30:8-13:30:14-30; 30:31-37; 30:38-43; 30:53-61; 31:22-48; 31:66-32:15; 36:34-41; 36:43-48; 31:49-65; 32:52-33:2; 36:32-41; 38:13-21; 40:32-45; 42:39-44; 52:18-55; 52:56-53:64; 53:65-54:8; 54:18-54; 61:12-20; 74:7-21; 78:10-18.</p> <p>'408 Prosecution History at *658.</p>	
27	<p>“Second” and “Third” intrinsic frequency</p> <p>'490 Patent, Claim 1</p>	<p>Plain and ordinary meaning, namely a second intrinsic frequency and a third intrinsic frequency, wherein the second and third intrinsic frequencies are measured from different sites in the brain, wherein the first intrinsic frequency may be measured from the same or a different site of the brain as the second and/or third intrinsic frequencies.</p> <p>'490 Patent: 4:5-8; 5:12-19; 6:48-53; 6:54-7:3; 11:9-13; 15:49-56; 17:64-18:12; 18:21-29; 19:12-24; 20:36-48; 29:1-4; 30:9-16; 31:45-50; 31:51-67;</p>	<p>“Second intrinsic frequency, (which is not the same as the first).”</p> <p>“Third intrinsic frequency (which is not the same as the first or second).”</p> <p>Defendant also incorporates by reference herein, all intrinsic citations listed for “intrinsic frequency,” <i>supra</i>.</p>

No.	Claim Term/Phrase and Asserted Claims Containing Term	Plaintiff's Proposed Construction and Supporting Intrinsic Evidence	Defendant's Proposed Construction and Supporting Intrinsic Evidence
		34:16-34; 37:53-61; 38:44-56; 39:38-47; 40:33-45; 47:37-48; 58:7-15; 58:56-59:6. '490 Prosecution History at *1799.	
28	wherein the magnetic field increases the blood flow of a cortex of the brain or decreases the blood flow of a lower region of the brain '490 Patent, Claim 1	Not indefinite or invalid. '490 Patent: 18:10-12; 18:18-20; 18:27-29; 18:34-37; 18:38-47; 19:12-24; 19:55-65; 24:4-6; 37:41-44; 37:49-52; 37:58-61; 37:66-38:2; 28:3-12; 32:23-49; 32:50-33:10; 33:11-28; 33:29-46; 34:16-34; 36:12-24; 36:39-49; 39:52-56; 38:44-56; 39:57-67; 40:32-45; 82:35-83:21. '490 Prosecution History at *1526, *1755, *1800, *1805.	Indefinite & Invalid: Not enabled /lacking written description/failure of best mode. '490 Patent, 1:13-19, 30:62-31:21 & 31:49-65; Example 14.

DATED: April 19, 2024

Respectfully submitted,

/s/ J. Rick Taché

Harry L. Gillam, Jr.
Texas Bar No. 07921800
J. Travis Underwood
Texas Bar No. 24102587
GILLAM & SMITH, LLP
303 South Washington Avenue
Marshall, Texas 75670
Telephone: (903) 934-8450
Facsimile: (903) 934-9257
Email: gil@gillamsmithlaw.com
Email: travis@gillamsmithlaw.com

J. Rick Taché (*pro hac vice*)
BUCHALTER
A Professional Corporation
18400 Von Karman Avenue, Suite 800
Irvine, CA 92612-0514
Telephone: (949)760-1121
Facsimile: (949) 720-0182
Email: rtache@buchalter.com

Attorneys for Plaintiff
WAVE NEUROSCIENCE, INC.

/s/ John D. Saba, Jr.

John D. Saba, Jr.
Texas State Bar No. 24037415
Jack A. Simms, Jr.
Texas State Bar No. 24100378
Matthew K. Gates
Texas State Bar No. 24069770
WITTLIFF | CUTTER PLLC
510 Baylor Street
Austin, Texas 7870
Telephone: (512) 960-4388
Facsimile: (512) 960-4869
Email: john@wittliffcutter.com
Email: jack@wittliffcutter.com
Email: matt@wittliffcutter.com

William M. Parrish
Texas State Bar No. 15540325
Henning Schmidt
Texas State Bar No. 24060569
STRADLING YOCOA
CARLSON & RAUTH
500 W. 2nd Street, Suite 1900
Austin, Texas 78701
Telephone: (512) 788-5020
Email: bparrish@stradlinglaw.com
Email: hschmidt@stradlinglaw.com

*Attorney for
DEFENDANT BRAIN FREQUENCY LLC*

CERTIFICATE OF SERVICE

The undersigned hereby certifies that counsel of record who are deemed to have consented to electronic services are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a) on April 19, 2024.

/s/ J. Rick Taché
J. Rick Taché